



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 16422.1-2019

**Plastics -- Methods of exposure to laboratory light sources --
Part 1: General guidance**

Issued on: December 10, 2019

Implemented on: November 1, 2020

Issued by: SAMR; SAC

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Foreword

GB/T 16422 Plastics - Methods of Exposure to Laboratory Light Source can be divided into the following four parts:

--- Part 1: General Guidance;

- Part 2: Xenon-Arc Lamps;
- Part 3: Fluorescent UV Lamps;
- Part 4: Open Flame Carbon Arc Lamp.

This Part is Part 1 of GB/T 16422.

This Part was drafted as per the rules specified in GB/T 1.1-2009.

This Part replaced GB/T 16422.1-2006 Plastics - Methods of the Exposure to Laboratory Light

Source - Part 1: General Guidance. Compared with GB/T 16422.1-2006, the major technical

changes of this Part are as follows:

- Modify the content of the Clause "Scope" (see Clause 1 of this Edition; Clause 1 of 2006 Edition);
- Modify the content of the Clause "Normative References"; and revise the references to undated references (see Clause 2 of this Edition; Clause 2 of 2006 Edition);
- Add relevant terms (see 3.3 and 3.4 in Clause 3 of this Edition);
- Modify the content of the Clause "Principles" (see Clause 4 of this Edition; Clause 4 of

2006 Edition);

- Modify the content of the Clause "Requirements for Laboratory Exposure Equipment" (see Clause 5 of this Edition; Clause 5 of 2006 Edition);
- Modify the content of the Clause "Specimen" (see Clause 6 of this Edition; Clause 6 of

2006 Edition);

- Modify the content of the Clause "Test Conditions and Procedures" (see Clause 7 of this Edition; Clause 7 of 2006 Edition);
- Modify the content of the Clause "Precision and Bias" (see Clause 8 of this Edition; Clause 8 of 2006 Edition);
- Adjust Annex B of the 2006 edition into Annex C, and modify relevant content (see Annex C of this Edition; Annex B of 2006 Edition).

This part used the translation method to equivalently adopt ISO 4892-1:2016 Plastics -

Methods of Exposure to Laboratory Light Sources - Part 1: General Guidance.

The Chinese documents that have consistent correspondence with the international documents

cited in this Part are as follows:

- GB/T 2918-2018 Plastics - Standard Atmospheres for Conditioning and Testing (ISO 291:2008, MOD);
- GB/T 9352-2008 Plastic - Compression Molding of Test Specimens of Thermoplastic Materials (ISO 293:2004, IDT);
- GB/T 17037.1-2019 Plastics - Injection Molding of Test Specimens of Thermoplastic Materials - Part 1: General Principles, and Molding of Multipurpose and Bar Test Specimens (ISO 294-1:2017, MOD);
- GB/T 17037.3-2003 Plastics - Injection Molding of Test Specimens of Thermoplastic Materials - Part 3: Small Plates (ISO 294-3:2002, IDT);
- GB/T 5471-2008 Plastics - Compression Molding of Test Specimens of Thermosetting Materials (ISO 295:2004, IDT);
- GB/T 11997-2008 Plastic - Multipurpose Test Specimens (ISO 3617:2002, IDT);
- GB/T 15596-2009 Plastics - Determination of Changes in Color and Variations in Properties after Exposure to Daylight under Glass, Natural Weathering or Laboratory Light Sources (ISO 4582:2007, IDT);
- GB/T 16422.2-2014 Plastics - Methods of Exposure to Laboratory Light Sources - Part 2: Xenon-Arc Sources (ISO 4892-2:2006, IDT);
- GB/T 16422.3-2014 Plastics - Methods of Exposure to Laboratory Light Sources - Part 3: Fluorescent UV Lamps (ISO 4892-3:2006, IDT);
- GB/T 16422.4-2014 Plastics - Methods of Exposure to Laboratory Light Sources - Part 4: Open-Flame Carbon-Arc Lamps (ISO 4892-4:2004, IDT).

This Part was proposed by China Petroleum and Chemical Industry Federation.

This Part shall be under the jurisdiction of National Technical Committee on Plastics of Standardization Administration of China (SAC/TC 15).

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Plastics - Methods of Exposure to

Laboratory Light Sources - Part 1: General Guidance

1 Scope

This Part of GB/T 16422 provides information and general guidance relevant to the selection

and operation of the methods of exposure described in detail in subsequent parts. It also describes general performance requirements for devices used for exposing plastics to laboratory

light sources. Information regarding performance requirements is for producers of artificial accelerated weathering or artificial accelerated irradiation devices.

NOTE: In this Part, the term "light source" refers to radiation sources that emit UV radiation, visible

radiation, infrared radiation or any combination of these types of radiation.

This Part also provides information on the interpretation of data from artificial accelerated weathering or artificial accelerated irradiation exposures. More specific information about methods for determining the change in the properties of plastics after exposure and reporting

these results is given in ISO 4582.

2 Normative References

The following documents are essential to the application of this Document. For the dated documents, only the versions with the dates indicated are applicable to this Document; for the

undated documents, only the latest version (including all the amendments) is applicable to this

Document.